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EXAMINER

SINES, BRIAN J

ART UNIT PAPER NUMBER

1743

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,843

Applicant(s)

NAYAR ET AL.

Examiner

Brian J. Sines

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-22 and 47-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 47-60 is/are allowed.
- 6) ☒ Claim(s) 1,3-11,13-17,19,21 and 22 is/are rejected.
- 7) ☒ Claim(s) 12,18 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1743

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1 and 3 – 7, 9 – 11, 13 – 17, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cutler et al. (US 6,309,889) in view of Weinberg et al. (US 5,959,297).

Regarding claims 1, 4 – 6, 10, 11, 16 and 17, as discussed in the previous office action, mailed 6/23/2004, Cutler et al. teach the positively recited structure of the claimed apparatus. In addition, Cutler et al. do teach the incorporation of an array support (plate 56) comprising at least two locations (wells 62) for supporting test materials (see figure 9A; col. 9, lines 1 – 35). However, Cutler et al. is silent to the specific teaching of a location selective heat source. Cutler et al. do indicate that their disclosed apparatus may be utilized in chemical library synthesis and screening processes in which solid-phase supports, such as resin beads, are used (see col. 1, lines 1 –

Art Unit: 1743

20). Weinberg et al. teach methods and devices for screening libraries of different materials also utilizing a similar synthesis and screening techniques, such as solid-phase synthesis (see col. 1, line 26 – col. 2, line 55). As shown in figure 14, with respect to claims 1, 9 and 13, Weinberg et al. teach a spatially controllable heating device, such as a scanning laser, for providing selective infrared heating in order to provide thermal control for each chemical compound library element individually (see col. 5, lines 35 – 55; col. 10, lines 46 – 64; col. 16, lines 12 – 34; col. 22, lines 5 – 23). Weinberg et al. further teach sequential heating (see col. 5, lines 35 – 51). Consequently, as evidenced by Weinberg et al., a person of ordinary skill in the art would have recognized the suitability of utilizing such a selective heating device with a sample array configuration comprising a multitude of different compounds for the individual processing of the different sample compounds. Furthermore, a person of ordinary skill in the art would accordingly have had a reasonable expectation for success of incorporating such a selective heating source in processing and screening an library array of chemical compounds. Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate a selective heating source, which would logically be in alignment with the window of the Cutler et al. apparatus, as recited in claim 1, in order to facilitate effective sample screening.

Regarding claim 3, Weinberg et al. do teach the use of a scanning mass spectrometer for screening volatile chemical compounds (see col. 22, lines 6 – 65). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate a detector, such as a mass spectrometer, in fluid communication with the fluid outlet of the apparatus.

Art Unit: 1743

Regarding claim 7, absent unexpected results, it would have been obvious to a person of ordinary skill in the art to utilize a toothed support, since the change in form or shape is an obvious engineering design.

Regarding claims 14 and 15, Weinberg et al. teach the use of a quadrupole mass spectrometer (see col. 3, lines 59 – 67).

Regarding claims 21 and 22, Weinberg et al. indicate the use of computer control associated with the disclosed apparatus (see col. 15, lines 12 – 17).

2. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cutler et al. in view of Weinberg et al., as applied to claims 1 and 3 – 7, 9 – 11, 13 – 17, 21 and 22 above, and further in view of Wilson (US 6,063,633). Neither Cutler et al. nor Weinberg et al. teach the use of different membrane materials as recited in claims 8 and 19. However, it would have been obvious to a person of ordinary skill in the art to utilize another material, such as alumina, as taught by Wilson, since, absent unexpected results, the selection of a known material, which is based upon its suitability for the intended use, is considered within the ambit of a person of ordinary skill in the art (see col. 2, lines 14 – 22 7 col. 4, lines 30 – 55).

Response to Arguments

1. Applicant's arguments and amendments regarding the rejection of claims 51 – 55, under 35 U.S.C. 112, second paragraph have been considered and are persuasive. This rejection has been withdrawn.

2. Applicant's arguments with respect to claims 1, 4 – 6, 9, 10, 13, 16, 17 and 22 have been considered, but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

1. Claims 12, 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 12, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Cutler et al. and Weinberg et al. a membrane support positioned within the cell adjacent to the semipermeable membrane.

Regarding claim 18, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Cutler et al. and Weinberg et al. a dispersion structure positioned between the fluid inlet and the array support.

Regarding claim 20, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Cutler et al. and Weinberg et al. a calibration port located between the fluid outlet and the detector.

2. Claims 47 – 60 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 47, the cited prior art neither teach nor fairly suggest an apparatus for screening materials in an array, wherein the apparatus is comprising: a semipermeable membrane adjacent to the array support; a membrane support positioned within the cell adjacent to the semipermeable membrane in combination with a fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane.

Art Unit: 1743

Regarding claim 51, the cited prior art neither teach nor fairly suggest the further incorporation within the claimed apparatus for screening materials: a dispersion structure positioned between the fluid inlet and the array support; a semipermeable membrane adjacent the array support; and a fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane.

Regarding claim 56, the cited prior art neither teach nor fairly suggest the further incorporation within the claimed apparatus: a fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane; and a calibration port located between the fluid outlet and the detector.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


Art Unit: 1743

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jill Warden
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